

REMARKS

Examiner is thanked for carefully reviewing the present application. The present amendment is in response to the Office Action dated August 16, 2006 and the Office Advisory Action dated December 16 regarding claims 1-10 and 17-22.

Favorable reconsideration is requested in view of the following remarks.

Claims 1, 19 and 22 are amended to particularly point out that the step of doping the source and drain electrodes with P and the step of forming the a-Si layer and the gate insulating film are carried out **in-situ** in the CVD processing chamber (column 0012 and column 0022 of the published specification). Claim 18 is amended to particularly exclude SiO_x to overcome the claim rejection. Claim 21 is cancelled. Claims 23 and 24 are added. Thus, claims 1-10, 17-20 and 22-24 are now pending in the present application. The amended claims contain no new matter nor raise new issues.

Claim Rejections under 35 U.S.C. §103(a)

Claims 1-10 and 19-21 are rejected under 35 U.S.C.103(a) as being unpatentable over Ohnuma et al. (US 6072193) in view of Qiao et al. (US 5,066,519). Claim 22 is rejected under 35 U.S.C.103(a) as being unpatentable over Ohnuma et al. in view of Qiao et al. and further in view of Deane et al. (US 6,180,438). Claims 1, 19 and 22 are amended to overcome the rejections.

As explicitly recited in claims 1, 19 and 22, the claimed invention teaches that the step 204 of doping the source and drain electrodes with P and the steps 205/206 of forming the a-Si layer and the gate insulating film are carried out **in-situ** in the CVD processing chamber, i.e. the steps 204,205 and 206 shown in FIG. 2 are carried out in one and the same CVD processing chamber (see column [0022]).

However, Ohnuma does not teach or suggest performing the phosphorus doping process and the steps of forming amorphous silicon 103 and gate insulating film 109 in one and the same CVD processing chamber. In fact, Ohnuma fails to disclose any information regarding the processing chamber(s) used for carrying out the phosphorus doping process and the steps of forming amorphous silicon 103 and gate insulating film 109, and Qiao even does not teach the phosphorus doping process at all, and thus Ohnuma and Qiao both

certainly cannot suggest performing the phosphorus doping process and the steps of forming amorphous silicon and gate insulating film in-situ in one and the same CVD processing chamber. Therefore, claims 1, 19 and 22 of the claimed invention are not obvious to one of ordinary skill in the art at the time the invention was made.

Regarding the rejection of claim 18, Applicants have amended claim 18 and added claim 24 to particularly point out that the oxide film is Al_2O_3 , TiO_2 , $\text{Al}_2(\text{Si}_2\text{O}_5)(\text{OH})_4$, MgAl_2O_4 , TaO_x or ZrO_x , wherein SiO_x is excluded from the original claim 18. Since Qiao merely suggests depositing undoped silicate glass, silicon nitride, silicon oxynitride or the like on the gettering layer to trap impurities and to prevent phosphorous contamination, but fails to disclose Al_2O_3 , TiO_2 , $\text{Al}_2(\text{Si}_2\text{O}_5)(\text{OH})_4$, MgAl_2O_4 , TaO_x or ZrO_x , Ohnuma in view of Qiao cannot teach or suggest claims 18 and 24 of the claimed invention.

With regard to claims 2-10 and 17-18, since claim 1 is allowable, dependent claims 2-10 and 17-18 each of which depends from independent claim 1 are likewise believed to be allowable.

With regard to claims 20, 23 and 24, since claim 19 is allowable, dependent claims 20, 23 and 24 each of which depends from independent claim 19 are likewise believed to be allowable.

Accordingly, Applicants respectfully requests that the section 103(a) rejections be withdrawn.


CONCLUSION

In light of the above remarks, all objections and rejections having been addressed, it is respectfully submitted that the present application is in a condition for allowance and a Notice to that effect is earnestly solicited. If there are any remaining issues to be resolved, Applicant requests that Examiner contact the undersigned attorney for a telephone interview.

Should any additional fees be required please charge Deposit Account 50-3720. Should any additional extensions of time be required, please consider this a petition thereof and charge Deposit Account 50-3720 the required fee.

Respectfully submitted,

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Ido Tuchman, Reg. No. 45,924
Law Office of Ido Tuchman
82-70 Beverly Road
Kew Gardens, NY 11415
Telephone (718) 544-1110
Facsimile (718) 544-8588